

REMARKS

Claims 1-16 are pending in the application. Claims 9-11 are withdrawn from consideration.

In the Office Action, claims 1-8 and 12-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. patent 5,699,447 (Alumot). Claims 13 and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Alumot and further in view of U.S. Patent 5,982,921 (Alumot '921). These rejections are respectfully traversed. Applicants respectfully request reconsideration and allowance of the claims in view of the following arguments.

The present invention relates to a method and apparatus for inspecting the surface of an article, such as a semiconductor wafer. Referring to Fig. 4 of the present application, the inventive technique expressed in independent claims 1 and 12 comprises scanning the surface to produce a data stream 400, and dividing the data using a data formatting section (DFS) 410 into columns 420, 422, 424 and 426. Each column 420-426 is further divided into a plurality of smaller data blocks, and each data block is processed simultaneously and independently using a corresponding processing node 430.

Regarding the obviousness rejection of independent claims 1 and 12 based on Alumot, the cited reference does not disclose or suggest the step of dividing data into columns, or the step of dividing each column into a plurality of data blocks, or the step of processing the data blocks simultaneously, as required by claim 1. Moreover, Alumot does not teach or suggest claim 12's data formatter for constructing data lines, or claim 12's processing nodes, each for processing a fractional portion of each data line simultaneously and independently.

In Alumot's inspection system, as shown in Fig. 12 of Alumot, a number of sensors 46a-g each feed data to a separate corresponding processor 64a-g for continuous processing. Alumot

does not divide data into columns, as claimed. Alumot's data can be said to be collected and processed as "columns" or "lines", so it does not need to be divided or formatted into columns or lines for processing, as claimed. Furthermore, Alumot does not subdivide its data columns into data blocks for processing, as claimed.

It is contended in the Office Action that Alumot teaches dividing its data into blocks, as claimed, but this is not an accurate characterization of Alumot, and is not supported by the cited passage and drawing. As discussed above, no dividing of data is performed in Alumot's technique, since the data is acquired separately, by each of sensors 46a-g. It is further contended in the Office Action that it would have been obvious to modify Alumot to divide its data into columns. However, even if the separate outputs of Alumot's sensors are analogized to the claimed data columns (e.g., columns 420-426 of Fig. 4 of the present application), Alumot does not teach or suggest subdividing the data into data blocks for processing, as claimed. Alumot explicitly teaches processing the output of each sensor as a continuous stream of data (see Alumot col. 9:51-58).

Alumot does not render the invention of independent claim 1 obvious, at least because it does not disclose or suggest the claimed steps of dividing data into columns, dividing each column into a plurality of data blocks, or processing each data block simultaneously. Moreover, Alumot does not render independent claim 12 obvious, at least because it does not teach or suggest claim 12's data formatter for constructing data lines, or processing nodes for processing a fractional portion of each data line simultaneously and independently. Still further, it would not have been obvious to modify the technique/apparatus of Alumot to yield the inventions of claims 1 and 12, because Alumot processes data in a completely different way from the claimed

inventions. Alumot processes data from separate sensors separately (see Alumot's Fig. 4), so it does not need to divide or format its data, as claimed.

Consequently, independent claims 1 and 12 are patentable, as are claims 2-4, 7, 8 and 13-16, which depend from claims 1 and 12, respectively.

Further regarding dependent claims 3 and 4, which recite details of the size of the claimed data blocks, Alumot does not teach or suggest dividing its data into blocks, so Alumot cannot teach or suggest dividing its data into the specific recited sizes of data blocks. Consequently, claims 3 and 4 are further and separately patentable.

Regarding the obviousness rejection of claims 13 and 14 based on Alumot and Alumot '921, the Alumot '921 reference does not furnish the data formatter or processing nodes required by claim 12, from which claims 13 and 14 depend. Therefore, any combination of Alumot and Alumot '921, however made, would still be missing these features of claim 12, and it would not have been obvious to add those features to any Alumot/Alumot '921 combination.

Consequently, claims 13 and 14 are patentable.

Regarding dependent claims 5 and 6, which were indicated to contain allowable subject matter, these claims are also patentable, since their base claim 1 is patentable.

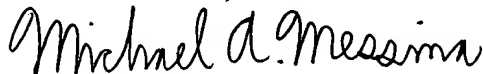
Reconsideration and withdrawal of the rejection of claims 1-4, 7, 8 and 12-16 under 35 U.S.C. §103(a) are respectfully requested.

Accordingly, it is believed that all pending claims are now in condition for allowance. Applicant therefore respectfully requests an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicant's representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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A handwritten signature in cursive script that reads "Michael A. Messina".

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